

***Remarks***

Reconsideration of this Application is respectfully requested.

Claims 1-4 and 21-24 are pending in the application, with claims 1 and 21 being the independent claims. Claims 21-24 are withdrawn. Claims 6-20 were previously canceled without prejudice to or disclaimer of the subject matter therein. Claims 5 and 25 are presently sought to be canceled without prejudice to or disclaimer of the subject matter therein. Claims 1-4 and are sought to be amended (and claims 21-24 will be similarly amended when brought back into the application upon allowance of claims 1-4). Applicants reserve the right to prosecute similar or broader claims, with respect to the canceled and amended claims, in the future. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendments and the following remarks, Applicants respectfully request that the Examiner reconsider all rejections and that they be withdrawn.

***Rejections under 35 U.S.C. § 102***

**In View of Tatsuya**

In the January 23, 2009 Final Office Action, claims 1-5 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Japanese Patent Application No. JP112433 to Tatsuya ("Tatsuya"). The Advisory Action of April 7, 2009 stated that Applicants' arguments of March 23, 2009 were unpersuasive and the 35 U.S.C. § 102(b) rejection was maintained. Applicants traverse the rejection, the Response to Arguments in the Final Office Action, and the Advisory Action.

Without acquiescing to the propriety of the rejection, claim 5 has been canceled rendering the rejection thereto moot.

The Final Office Action and Advisory Action contend that Tatsuya teaches each of the elements of independent claim 1. Applicants respectfully disagree. Applicants maintain that the Examiner's interpretation in the Final Office Action and the Advisory Action of the claim term "modal" is impermissibly broad. However, in order to further prosecution, and without acquiescing to the propriety of the rejection, claim 1 has been clarified to recite features that distinguish over the applied reference.

Amended claim 1 recites,

A vibration isolation system for at least partially damping and isolating vibrations of a body, the system comprising:

- a plurality of sensors mechanically coupled to the body configured to detect vibrations of the body;
- a plurality of active isolator devices mechanically coupled to the body; and
- a control system configured to control the active isolator devices, wherein the control system is configured to:

***transform vibrations measured in a first coordinate system of the plurality of sensors into vibrations in modal directions, that comprise a second coordinate system, corresponding to the natural modes or eigenmodes of the body,***

***wherein the natural modes or eigenmodes of the body depend on physical characteristics of the body and the body's coupling to an environment;***

determine a modal compensation signal for each modal direction;

transform each modal compensation signal into an active isolator control signal in the first coordinate system for each active isolator device; and

stabilize at least one unstable natural mode of the body.

(emphasis added)

The operational "modes" and control "modes" that appear to be disclosed by Tatsuya do not involve the claimed transformations of the Cartesian vibrations measurements to any

form of “modal” coordinate system (*i.e.*, a second coordinate system). Further, there appears to be no disclosure in Tatsuya regarding the claimed “modal directions ... corresponding to the natural modes or eigenmodes of the body” that “depend on physical characteristics of the body and the body’s coupling to an environment[.]”

Accordingly, Applicants submit that Tatsuya does not disclose a “control system [that] is configured to: transform vibrations measured in a coordinate system of the plurality of sensors into vibrations in modal directions, that comprise a separate coordinate system, corresponding to the natural modes or eigenmodes of the body, wherein the natural modes or eigenmodes of the body depend on physical characteristics of the body and the body’s coupling to an environment; determine a modal compensation signal for each modal direction; transform each modal compensation signal into an active isolator control signal in the same coordinate system as the plurality of sensors for each active isolator device; and stabilize at least one unstable natural mode of the body[.]” as recited in amended claim 1.

Therefore, Tatsuya does not anticipate claim 1. Claims 2-4, all of which depend from independent claim 1, are also patentable over Tatsuya for reasons similar to those set forth above with respect to amended independent claim 1, and further in view of their own respective features.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-4, and find the claims allowable over the applied reference.

**In View of Masato**

In the January 23, 2009 Final Office Action, claims 1-5 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Japanese Patent Application No. JP 10-275756 to Masato (“Masato”). Applicants traverse the rejection, the Response to Arguments in the Final Office Action, and the Advisory Action

Without acquiescing to the propriety of the rejection, claim 5 has been canceled rendering the rejection thereto moot.

The Final Office Action and Advisory Action contend that Masato teaches each of the elements of independent claim 1. Applicants respectfully disagree. Applicants maintain that the Examiner’s interpretation in the Final Office Action and the Advisory Action of the claim term “modal” is impermissibly broad. However, as discussed above, in order to further prosecution, and without acquiescing to the propriety of the rejection, claim 1 has been clarified to recite features that distinguish over the applied reference.

The calculated dislocation of the main body and re-associated reticle dislocation that appear to be disclosed by Masato do not involve the claimed transformations of the Cartesian vibrations measurements to any form of “modal” coordinate system. Further, there appears to be no disclosure in Masato regarding the claimed “modal directions ... corresponding to the natural modes or eigenmodes of the body” that “depend on physical characteristics of the body and the body’s coupling to an environment[.]”

Accordingly, Applicants submit that Masato does not disclose a “control system [that] is configured to: transform vibrations measured in a coordinate system of the plurality of sensors into vibrations in modal directions, that comprise a separate coordinate system, corresponding to the natural modes or eigenmodes of the body, wherein the natural modes or

eigenmodes of the body depend on physical characteristics of the body and the body's coupling to an environment; determine a modal compensation signal for each modal direction; transform each modal compensation signal into an active isolator control signal in the same coordinate system as the plurality of sensors for each active isolator device; and stabilize at least one unstable natural mode of the body[,]" as recited in amended claim 1.

Therefore, Masato does not anticipate claim 1. Claims 2-4, all of which depend from independent claim 1, are also patentable over Masato for reasons similar to those set forth above with respect to independent claim 1, and further in view of their own respective features.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-4, and find the claims allowable over the applied reference.

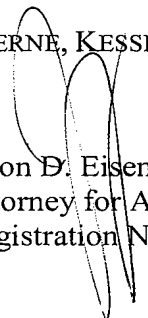
***Conclusion***

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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